



removing residual metal that did not react during the heat treatment; and

repeating the depositing step, the silicide applying step, and the removing step once or a number of times.

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5. The method for manufacturing the semiconductor device according to claim 4, further comprising:

heat treating the substrate after the repeating step at a temperature that is higher than that of the heat treating step .

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6. The method for manufacturing the semiconductor device according to claim 5, wherein the conductive portion to which silicide is applied is an N-type semiconductor.

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7. The method for manufacturing the semiconductor device according to claim 4, wherein the thickness of the gate electrode is  $1,000\text{\AA}$  ( $10^{-8}\text{cm}$ ) to  $2,500\text{\AA}$  ( $10^{-8}\text{cm}$ ), and the heat treating is repeated in a temperature range of  $600^{\circ}\text{C}$  to  $720^{\circ}\text{C}$ .

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8. The method for manufacturing the semiconductor device according to claim 7, further comprising:

heat treating the substrate after the repeating step for 30 seconds at a temperature of about  $850^{\circ}\text{C}$ .

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9. The method for manufacturing the semiconductor device according to claim 8, wherein the conductive portion to which silicide is applied is an N-type semiconductor.